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### 5 **SEQUENCE LISTING**

 Parental subgenomic HCV replicon I377/NS3-3'UTR SEQ ID NO: 1

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|            | ACCESSION:   | AJ242652  |  |  |  |
|            | NID  | g5441834  |  |  |  |
|            | VERSION  | AJ242652.1 GI:5441834   |  |  |  |
|            | KEYWORDS:  | core-neo gene; NS2 gene; NS2 proteinase; NS3 gene; NS3                  |  |  |  |
|            | proteinase/helicase;   | NS3/4A proteinase cofactor; NS4A gene; NS4B gene; NS4b protein; NS5a    |  |  |  |
| 30         |  | oprotein; NS5b gene; NS5B RNA dependant RNA polymerase; polyprotein.    |  |  |  |
|            | SOURCE:  | Hepatitis C virus replicon I377/NS3-3'UTR.                              |  |  |  |
|            | ORGANISM:  | Hepatitis C virus replicon I377/NS3-3'UTR artificial sequence; vectors. |  |  |  |

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REFERENCE:

1 (bases 1 to 7989)

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         AUTHORS:
                              Lohmann, V.,
                                               Korner, F.,
                                                            Koch, J.,
                                                                       Herian, U.,
                                                                                     Theilmann,L.
                                                                                                     and
         Bartenschlager, R.
         TITLE:
                              Replication of subgenomic hepatitis C virus RNAs in a hepatoma cell line
         JOURNAL:
                               Science 285 (5424), 110-113 (1999)
         MEDLINE
                              99322193
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                              2 (bases 1 to 7989)
         AUTHORS:
                              Bartenschlager, R.
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                              Direct Submission
         JOURNAL:
                              Submitted (26-MAY-1999) Bartenschlager R., Institute for Virology,
         Johannes Gutenberg - University Mainz, Obere Zahlbacher Strasse 67, 55131 Mainz, GERMANY
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7759..7989

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### 2. HCV Replicon RNA from cell line HCVR2

### SEQ ID NO: 2

1 gecageecce gattggggge gacacteeae catagateae teecetgtga ggaactaetg 61 tetteaegea gaaagegtet ageeatggeg ttagtatgag tgtegtgeag ceteeaggae 121 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 181 gacgaccggg teetttettg gateaacccg etcaatgeet ggagatttgg gegtgeecee 241 gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg 301 gtgettgega gtgeeceggg aggtetegta gaeegtgeae catgageaeg aateetaaae 361 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 421 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget 481 ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg 541 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca 601 cgacgggcgt teettgegea getgtgeteg aegttgteae tgaageggga agggaetgge 661 tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga 721 aagtateeat eatggetgat geaatgegge ggetgeatae gettgateeg getaeetgee 781 cattegacca ccaagegaaa categeateg agegageaeg tacteggatg gaageeggte 841 ttgtcgatca ggatgatctg gacgaagagc atcaggggct cgcgccagcc gaactgttcg 901 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet 961 gcttgccgaa tatcatggtg gaaaatggcc gcttttctgg attcatcgac tgtggccggc 1021 tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1081 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc 1141 agegeatege ettetatege ettettgaeg agttettetg agtttaaaca gaecacaaeg 1201 gtttccctct agegggatca atteegeeec tetAccteec ecceectaa egttaetgge

| 5  | 1261 cgaageeget tggaataagg eeggtgtgeg tttgtetata tgttatttte caccatattg                          |
|----|---|
|    | 1321 ccgtcttttg gcaatgtgag ggcccggaaa cctggccctg tcttcttgac gagcattcct                          |
|    | 1381 aggggtettt eccetetege caaaggaatg caaggtetgt tgaatgtegt gaaggaagea                          |
|    | 1441 gttcctctgg aagcttcttg aagacaaaca acgtctgtag cgaccctttg caggcagcgg                          |
|    | 1501 aacccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata agatacacct                           |
| 10 | 1561 gcaaaggcgg cacaacccca gtgccacgtt gtgagttgga tagttgtgga aagagtcaaa                          |
|    | 1621 tggctctcct caagcgtatt caacaagggg ctgaaggatg cccagaaggt accccattgt                          |
|    | 1681 atgggatetg atetggggee teggtgeaea tgetttaeat gtgtttagte gaggttaaaa                          |
|    | 1741 aacgtetagg ecceegaac eaeggggaeg tggtttteet ttgaaaaaca egataatace                           |
|    | 1801 atggcgccta ttacggccta ctcccaacag acgcgaggcc tacttggctg catcatcact                          |
| 15 | 1861 agecteacag geogggacag gaaccaggte gagggggagg tecaagtggt etecacege                           |
|    | 1921 acacaatett teetggegae etgegteaat ggegtgtgtt ggaetgteta teatggtgee                          |
|    | 1981 ggctcaaaga cccttgccgg cccaaagggc ccaatcaccc aaatgtacac caatgtggac                          |
|    | 2041 caggaceteg teggetggca agegeeeeee ggggegegtt cettgacace atgeacetge                          |
|    | 2101 ggcagetegg acetttactt ggtcacgagg catgeegatg teatteeggt gegeeggegg                          |
| 20 | 2161 ggcgacagca gggggagcct actetecece aggecegtet cetaettgaa gggetetteg                          |
|    | 2221 ggcggtccac tgctctgccc ctcggggcac gctgtgggca tctttcgggc tgccgtgtgc                          |
|    | 2281 accegagggg ttgcgaaggc ggtggacttt gtaccegtcg agtctatgga aaccactatg                          |
|    | 2341 eggteeegg tetteaegga caactegtee eeteeggeeg taeegeagae atteeaggtg                           |
|    | 2401 geceatetae aegeeeetae tggtagegge aagageaeta aggtgeegge tgegtatgea                          |
| 25 | 2461 gcccaagggt ataaggtget tgtcctgaac ccgtccgtcg ccgccaccct aggtttcggg                          |
|    | 2521 gegtat $\underline{\mathbf{G}}$ tgt etaaggeaca tggtategae eetaacatea gaaceggggt aaggaecate |
|    | 2581 accaegggtg eccecateae gtaeteeaee tatggeaagt ttettgeega eggtggttge                          |
|    | 2641 tetgggggeg cetatgacat cataatatgt gatgagtgee acteaactga etegaceact                          |
|    | 2701 atcctgggca tcggcacagt cctggaccaa gcggagacgg ctggagcgcg actcgtcgtg                          |
| 30 | 2761 etegecaceg etaegeetee gggateggte acegtgecae atecaaacat egaggaggtg                          |
|    | 2821 getetgteea geaetggaga aateeeettt tatggeaaag eeateeeeat egagaeeate                          |
|    | 2881 aagggggga ggcacctcat tttctgccat tccaagaaga aatgtgatga gctcgccgcg                           |
|    | 2941 aagetgteeg geeteggaet caatgetgta geatattace ggggeettga tgtateegte                          |
|    | 3001 ataccaacta geggagaegt eattgtegta geaaeggaeg etetaatgae gggetttaee                          |

5 3061 ggcgatttcg actcagtgat cgactgcaat acatgtgtca cccagacagt cgacttcagc 3121 ctggaccega cetteaceat tgagacgacg acegtgecae aagacgeggt gteacgeteg 3181 cagcggcgag gcaggactgg taggggcagg atgggcattt acaggtttgt gactccagga 3241 gaacggccct cgggcatgtt cgattcctcg gttctgtgcg agtgctatga cgcgggctgt 3301 gettggtacg agetcaegee egeegagace teagttaggt tgegggetta cetaaacaca 10 3361 ccagggttgc ccgtctgcca ggaccatctg gagttctggg agagcgtctt tacaggcctc 3421 acccacatag acgcccattt cttgtcccag actaagcagg caggagacaa cttcccctac 3481 ctggtagcat accaggetac ggtgtgegec agggeteagg etecacetee ategtgggae 3541 caaatgtgga agtgtctcat acggctaaag cctacgctgc acgggccaac gccctgctg 3601 tataggetgg gageegttea aaacgaggtt actaceaeae acceeataae caaatacate 15 3661 atggcatgca tgtcggctga cctggaggtc gtcacgagca cctgggtgct ggtaggcgga 3721 gtcctagcag ctctggccgc gtattgcctg acaacaggca gcgtggtcat tgtgggcagg 3781 atcatcttgt ccggaaagcc ggccatcatt cccgacaggg aagtcettta ccgggagtte 3841 gatgagatgg aagagtgege etcacacete cettacateg aacagggaat geagetegee 3901 gaacaattca aacagaaggc aatcgggttg ctgcaaacag ccaccaagca agcggaggct 20 3961 getgeteegg tggtggaate caagtggegg accetegaag cettetggge gaagcatatg 4021 tggaatttca tcagcgggat acaatattta gcaggettgt ccactctgcc tggcaacccc 4081 gegatageat eactgatgge atteacagee tetateacea geeegeteae eaceeaacat 4141 accetectgt ttaacatect ggggggatgg gtggccgccc aacttgctcc teccageget 4201 gettetgett tegtaggege eggeateget ggageggetg ttggeageat aggeettggg 25 4261 aaggtgettg tggatatttt ggeaggttat ggageagggg tggeaggege getegtggee 4321 tttaaggtca tgagcggcga gatgccctcc accgaggacc tggttaacct actccctgct 4381 atcetetece etggegeeet agtegteggg gtegtgtgeg eagegataet gegteggeae 4441 gtgggcccag gggagggggc tgtgcagtgg atgaaccggc tgatagcgtt cgcttcgcgg 4501 ggtaaccaeg tetececeae geactatgtg cetgagageg aegetgeage aegtgteaet 30 4561 cagatectet etagtettae cateacteag etgetgaaga ggetteacea gtggateaac 4621 gaggactget ceaegecatg eteeggeteg tggetaagag atgtttggga ttggatatge 4681 acggtgttga ctgatttcaa gacctggctc cagtccaagc teetgeegeg attgeeggga 4741 gtccccttct tctcatgtca acgtgggtac aagggagtct ggcggggcga cggcatcatg 4801 caaaccacct geceatgtgg ageacagate accggacatg tgaaaaacgg ttecatgagg

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4861 ategtgggge etaggacetg tagtaacaeg tggeatggaa eatteeceat taacgegtae 4921 accacgggcc cetgcacgcc etccccggcg ccaaattatt etagggcgct gtggcgggtg 4981 gctgctgagg agtacgtgga ggttacgcgg gtgggggatt tccactacgt gacgggcatg 5041 accactgaca acgtaaagtg cccgtgtcag gttccggccc ccgaattett cacagaagtg 5101 gatggggtgc ggttgcacag gtacgctcca gcgtgcaaac ccctcctacg ggaggaggtc 5161 acattectgg tegggeteaa teaatacetg gttgggteac ageteecatg egageeegaa 5221 ccggacgtag cagtgeteae ttecatgete accgaeceet eccaeattae ggeggagaeg 5281 getaage<u>T</u>ta ggetggeeag gggateteee eceteettgg eeageteate agetageeag 5341 ctgtctgcgc cttccttgaa ggcaacatgc actacccgtc atgactcccc ggacgctgac 5401 ctcatcgagg ccaacctcct gtggcggcag gagatgggcg ggaacatcac ccgcgtggag 5461 tcagaaaata aggtagtaat tttggactct ttcgagccgc tccaagcgga ggaggatgag 5521 agggaagtat ccgttccggc ggagatcctg cggaggtcca ggaaattccc tcgagcgatg 5581 cccatatggg cacgecegga ttacaacect ccactgttag agteetggaa ggaceeggac 5641 tacgtccctc cagtggtaca cgggtgtcca ttgccgcctg ccaaggcccc tccgatacca 5701 cctccacgga ggaagaggac ggttgtcctg tcagaatcta ccgtgtcttc tgccttggcg 5761 gagetegeca caaagaeett eggeagetee gaategtegg eegtegacag eggeaeggea 5821 acggeetete etgaceagee eteegaegae ggegaegegg gateegaegt tgagtegtae 5881 tectecatge ecceettga gggggageeg ggggateeeg ateteagega egggtettgg 5941 tctaccgtaa gcgaggaggc tagtgaggac gtcgtctgct gctcgatgtc ctacacatgg 6001 acaggegeee tgateaegee atgegetgeg gaggaaacea agetgeeeat caatgeaetg 6061 ageaactett tgeteegtea ceacaacttg gtetatgeta caacateteg cagegeaage 6121 ctgcggcaga agaaggtcac ctttgacaga ctgcaggtcc tggacgacca ctaccgggac 6181 gtgctcaagg agatgaaggc gaaggcgtcc acagttaagg ctaaacttct atccgtggag 6241 gaageetgta agetgaegee eccaeatteg geeagateta aatttggeta tggggeaaag 6301 gacgtccgga acctatccag caaggccgtt aaccacatcc gctccgtgtg gaaggacttg 6361 ctggaagaca ctgagacacc aattgacacc accatcatgg caaaaaaatga ggttttctgc 6421 gtccaaccag agaaggggg ccgcaagcca gctcgcctta tcgtattccc agatttgggg 6481 gttcgtgtgt gcgagaaaat ggccctttac gatgtggtct ccaccctccc tcaggccgtg 6541 atgggetett cataeggatt ceaataetet eetggacage gggtegagtt eetggtgaat 6601 gcctggaaag cgaagaaatg ccctatgggc ttcgcatatg acacccgctg ttttgactca

| 5  | 6661 acggtcactg agaatgacat ccgtgttgag gagtcaatct accaatgttg tgacttggcc  |
|----|---|
|    | 6721 cccgaagcca gacaggccat aaggtcgctc acagagcggc tttacatcgg gggccccctg  |
|    | 6781 actaatteta aagggeagaa etgeggetat egeeggtgee gegegagegg tgtaetgaeg  |
|    | 6841 accagetgeg gtaataccet cacatgttac ttgaaggeeg etgeggeetg tegagetgeg  |
|    | 6901 aageteeagg aetgeacgat getegtatge ggagaegaee ttgtegttat etgtgaaage  |
| 10 | 6961 geggggacce aagaggacga ggegageeta egggeettea eggaggetat gaetagata   |
|    | 7021 tetgecece etggggacce geceaaacea gaatacgaet tggagttgat aacateatge   |
|    | 7081 teeteeaatg tgteagtege geaegatgea tetggeaaaa gggtgtaeta teteaceegt  |
|    | 7141 gaccccacca eccecttge gegggetgeg tgggagacag etagacacae tecagtcaat   |
|    | 7201 teetggetag geaacateat eatgtatgeg eccacettgt gggeaaggat gateetgatg  |
| 15 | 7261 acteatttet tetecateet tetageteag gaacaacttg aaaaageeet agattgteag  |
|    | 7321 atetaegggg cetgttacte cattgageca ettgacetae eteagateat teaaegaete  |
|    | 7381 catggcetta gegcatttte actecatagt tactetecag gtgagateaa tagggtgget  |
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|    | 7501 gtccgcgcta ggctactgtc ccaggggggg agggctgcca cttgtggcaa gtacctcttc  |
| 20 | 7561 aactgggcag taaggaccaa geteaaacte acteeaatee eggetgegte eeagttggat  |
|    | 7621 ttatccaget ggttcgttgc tggttacage gggggagaca tatatcacag cetgtctcgt  |
|    | 7681 gecegaecce getggtteat gtggtgeeta etectaettt etgtaggggt aggeatetat  |
|    | 7741 ctactcccca accgatgaac ggggagctaa acactccagg ccaataggcc atcctgtttt  |
|    | 7801 titecettii tittittett tittittitt tittittitt tittittitt titeteettit |
| 25 | 7861 tttttcctct ttttttcctt ttctttcctt tggtggctcc atcttagccc tagtcacggc  |
|    | 7921 tagetgtgaa aggteegtga geegettgae tgeagagagt getgataetg geetetetge  |
|    | 7981 agatcaagta ct  |
|    | 10<br>15  |

# 30 3. HCV Replicon RNA from cell line HCVR8SEQ ID NO: 3

1 gccagcccc gattgggggc gacactccac catagatcac tcccctgtga ggaactactg
61 tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtgcag cctccaggac
121 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag

| 181 gacgaccggg teettettg gateaacccg cteaatgeet ggagattigg gegtgeecce   |
|--|
| 241 gegagaetge tageegagta gtgttgggte gegaaaggee ttgtggtaet geetgatagg  |
| 301 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac  |
| 361 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc  |
| 421 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget  |
| 481 ctgatgccgc cgtgttccgg ctgtcagcgc agggggcgccc ggttcttttt gtcaagaccg |
| 541 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca  |
| 601 cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc  |
| 661 tgctattggg cgaagtgccg gggcaggate teetgteate teacettget eetgeegaga  |
| 721 aagtateeat eatggetgat geaatgegge ggetgeatae gettgateeg getaeetgee  |
| 781 cattegacea ceaagegaaa categeateg agegageaeg tacteggatg gaageeggte  |
| 841 ttgtcgatca ggatgatctg gacgaagagc atcaggggct cgcgccagcc gaactgttcg  |
| 901 ccaggetcaa ggegegeatg eccgaeggeg aggatetegt egtgaeceat ggegatgeet  |
| 961 gettgeegaa tateatggtg gaaaatggee gettttetgg atteategae tgtggeegge  |
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| 1081 ttggeggega atgggetgae egetteeteg tgetttaegg tategeeget eeegattege |
| 1141 agegeatege ettetatege ettettgaeg agttettetg agtttaaaca gaccacaacg |
| 1201 gttteeetet agegggatea atteegeece teteeeteee eeceeetaa egttaetgge  |
| 1261 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg |
| 1321 ccgtcttttg gcaatgtgag ggcccggaaa cctggccctg tcttcttgac gagcattcct |
| 1381 aggggtettt eccetetege caaaggaatg caaggtetgt tgaatgtegt gaaggaagca |
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| 1561 gcaaaggcgg cacaacccca gtgccacgtt gtgagttgga tagttgtgga aagagtcaaa |
| 1621 tggctctcct caagcgtatt caacaagggg ctgaaggatg cccagaaggt accccattgt |
| 1681 atgggatetg atetggggee teggtgeaca tgetttaeat gtgtttagte gaggttaaaa |
| 1741 aacgtctagg cccccgaac cacggggacg tggttttcct ttgaaaaaca cgataatacc  |
| 1801 atggegeeta ttaeggeeta eteccaacag aegegaggee taettggetg catcateact |
| 1861 ageeteacag geegggacag gaaccaggte gagggggagg teeaagtggt etecacegea |
| 1921 acacaatett teetggegae etgegteaat ggegtgtgtt ggaetgteta teatggtgee |

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1981 ggctcaaaga ccettgccgg cccaaagggc ccaatcaccc aaatgtacac caatgtggac 2041 caggaçeteg teggetggea agegeeecee ggggegegtt cettgacace atgeacetge 2101 ggcagctcgg acctttactt ggtcacgagg catgccgatg tcattccggt gcgccggcgg 2161 ggcgacagca gggggagcct actetecece aggecegtet cetaettgaa gggetetteg 2221 ggcggtccac tgctctgccc ctcggggcac gctgtgggca tctttcgggc tgccgtgtgc 2281 acccgagggg ttgcgaaggc ggtggacttt gtacccgtcg agtctatgg $\underline{G}$  aaccactatg 2341 eggteeeegg tetteaegga caactegtee eeteeggeeg taeegeagae atteeaggtg 2401 geccatetae aegeceetae tggtagegge aagageaeta aggtgeegge tgegtatgea 2461 gcccaagggt ataaggtget tgtcctgaac ccgtccgtcg ccgccaccct aggtttcggg 2521 gegtatatgt etaaggeaca tggtategae cetaacatea gaaceggggt aaggaecate 2581 accaegggtg eccecateae gtaeteeace tatggeaagt ttettgeega eggtggttge 2641 tetgggggeg cetatgacat cataatatgt gatgagtgee aeteaaetga etegaeeaet 2701 atcctgggca tcggcacagt cctggaccaa gcggagacgg ctggagcgcg actcgtcgtg 2761 etegecaceg etaegeetee gggateggte acegtgecae atecaaacat egaggaggtg 2821 getetgteea geaetggaga aateeeettt tatggeaaag ceateeeeat egagaceate 2881 aaggggggga ggcacctcat tttctgccat tccaagaaga aatgtgatga gctcgccgcg 2941 aagetgteeg geeteggaet eaatgetgta geatattace ggggeettga tgtateegte 3001 ataccaacta geggagaegt cattgtegta geaaeggaeg etetaatgae gggetttaee 3061 ggcgatttcg actcagtgat cgactgcaat acatgtgtca cccagacagt cgacttcagc 3121 etggaccega cetteaceat tgagacgacg accgtgecae aagacgeggt gteacgeteg 3181 cagcggcgag gcaggactgg taggggcagg atgggcattt acaggtttgt gactccagga 3241 gaacggccct cgggcatgtt cgattcctcg gttctgtgcg agtgctatga cgcgggctgt 3301 gettggtacg agetcaegee egeegagace teagttaggt tgegggetta eetaaacaca 3361 ccagggttgc ccgtctgcca ggaccatctg gagttctggg agagcgtctt tacaggcctc 3421 acccacatag acgcccattt cttgtcccag actaagcagg caggagacaa cttcccctac 3481 etggtageat accaggetae ggtgtgegee agggeteagg etceacetee ategtgggae 3541 caaatgtgga agtgtctcat acggctaaag cctacgctgc acgggccaac gcccctgctg 3601 tataggetgg gageegttea aaacgaggtt actaceaeae acceeataae caaatacate 3661 atggcatgca tgtcggctga cctggaggtc gtcacgagca cctgggtgct ggtaggcgga 3721 gtcctagcag ctctggccgc gtattgcctg acaacaggca gcgtggtcat tgtgggcagg

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3781 atcatettgt eeggaaagee ggeeateatt eeegaeaggg aagteettta eegggagtte 3841 gatgagatgg aagagtgege etcaeacete cettacateg aacagggaat geagetegee 3901 gaacaattca aacagaaggc aatcgggttg ctgcaaacag ccaccaagca agcggaggct 3961 getgeteeeg tggtggaate caagtggegg accetegaag cettetggge gaagcatatg 4021 tggaatttea teagegggat acaatattta geaggettgt ceaetetgee tggeaacee 4081 gegatageat eactgatgge atteacagee tetateacea geeegeteae eaceeaacat 4141 accetectgt ttaacatect ggggggatgg gtggccgccc aacttgctcc teccageget 4201 gettetgett tegtaggege eggeateget ggageggetg ttggeageat aggeettggg 4261 aaggtgettg tggatatttt ggeaggttat ggageagggg tggeaggege getegtggee 4321 tttaaggtea tgageggega gatgeeetee acegaggace tggttaacet acteeetget 4381 atcetetece etggegeeet agtegteggg gtegtgtgeg eagegataet gegteggeae 4441 gtgggcccag gggagggggc tgtgcagtgg atgaaccggc tgatagcgtt cgcttcgcgg 4501 ggtaaccacg tetececeae geactatgtg eetgagageg aegetgeage aegtgteaet 4561 cagatectet etagtettae eateacteag etgetgaaga ggetteacea gtggateaac 4621 gaggactgct ccacgccatg ctccggctcg tggctaagag atgtttggga ttggatatgc 4681 acggtgttga ctgatttcaa gacctggctc cagtccaagc tcctgccgcg attgccggga 4741 gtccccttct tctcatgtca acgtgggtac aagggagtct ggcggggcga cggcatcatg 4801 caaaccacct geceatgtgg ageacagate aceggacatg tgaaaaa ${f AAA}$ egg ttecatgagg 4864 atcgtggggc ctaggacctg tagtaacacg tggcatggaa cattccccat taacgcgtac 4924 accaegggee cetgeacgee etecceggeg ecaaattatt etagggeget gtggegggtg 4984 gctgctgagg agtacgtgga ggttacgcgg gtgggggatt tccactacgt gacgggcatg 5044 accactgaca acgtaaagtg cccgtgtcag gttccggccc ccgaattctt cacagaagtg 5104 gatggggtgc ggttgcacag gtacgctcca gcgtgcaaac ccctcctacg ggaggaggtc 5164 acattectgg tegggeteaa teaatacetg gttgggteae ageteecatg egageeegaa 5224 coggacgtag cagtgeteae tteeatgete accgacceet eccacattae ggoggagaeg 5284 getaagegta ggetggeeag gggateteee eceteettgg eeageteate agetageeag 5344 ctgtctgcgc cttccttgaa ggcaa Tatgc actacccgtc atgactcccc ggacgctgac 5404 ctcatcgagg ccaacctcct gtggcggcag gagatgggcg ggaacatcac ccgcgtggag 5464 teagaaaata aggtagtaat tttggaetet ttegageege teeaagegga ggaggatgag 5524 agggaagtat ccgttccggc ggagatcctg cggaggtcca ggaaattccc tcgagcgatg

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5584 cccatatggg cacgecegga ttacaaccet ccaetgttag agteetggaa ggaceeggae 5644 tacgtccctc cagtggtaca cgggtgtcca ttgccgcctg ccaaggcccc tccgatacca 5704 cetecaegga ggaagaggae ggttgteetg teagaateta eegtgtette tgeettggeg 5764 gagetegeca caaagacett eggeagetee gaategtegg eegtegacag eggeaeggea 5824 acggeetete etgaceagee eteegacgae ggegaegegg gateegaegt tgagtegtae 5884 teetecatge ecceettga gggggageeg ggggateeeg ateteagega egggtettgg 5944 totaccgtaa gcgaggaggc tagtgaggac gtcgtctgct gctcgatgtc ctacacatgg 6004 acaggegeee tgateaegee atgegetgeg gaggaaacea agetgeeeat caatgeaetg 6064 ageaactett tgeteegtea ceacaacttg gtetatgeta caacateteg cagegeaage 6124 ctgcggcaga agaaggtcac ctttgacaga ctgcaggtcc tggacgacca ctaccgggac 6184 gtgctcaagg agatgaaggc gaaggcgtcc acagttaagg ctaaacttct atccgtggag 6244 gaageetgta agetgaegee eccacatteg geeagateta aatttggeta tggggeaaag 6304 gacgtccgga acctatccag caaggccgtt aaccacatcc gctccgtgtg gaaggacttg 6364 ctggaagaca ctgagacacc aattgacacc accatcatgg caaaaaatga ggttttctgc 6424 gtccaaccag agaagggggg ccgcaagcca gctcgcctta tcgtattccc agatttgggg 6484 gttcgtgtgt gcgagaaaat ggccctttac gatgtggtct ccaccctccc tcaggccgtg 6544 atgggetett cataeggatt ceaatactet eetggacage gggtegagtt eetggtgaat 6604 gcctggaaag cgaagaaatg ccctatgggc ttcgcatatg acacccgctg ttttgactca 6664 acggtcactg agaatgacat ccgtgttgag gagtcaatct accaatgttg tgacttggcc 6724 cccgaagcca gacaggccat aaggtcgctc acagagcggc tttacatcgg gggccccctg 6784 actaatteta aagggeagaa etgeggetat egeeggtgee gegegagegg tgtaetgaeg 6844 accagetgeg gtaataceet cacatgttae ttgaaggeeg etgeggeetg tegagetgeg 6904 aageteeagg actgeacgat getegtatge ggagaegaee ttgtegttat etgtgaaage 6964 geggggaece aagaggaega ggegageeta egggeettea eggaggetat gaetagatae 7024 tetgececee etggggaece geceaaacea gaataegaet tggagttgat aacateatge 7084 tectecaatg tgteagtege geaegatgea tetggeaaaa gggtgtaeta teteaceegt 7144 gaccccacca ecceettge gegggetgeg tgggagaeag etagaeaeae teeagteaat 7204 teetggetag geaacateat eatgtatgeg eccacettgt gggeaaggat gateetgatg 7264 actcatttct tetecatect tetageteag gaacaacttg aaaaageeet agattgteag 7324 atctacgggg cetgttacte cattgageca ettgacetae etcagateat teaacgaete

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| 17 mg                                  | 25 |
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| 3 2                                    |    |

| 5  | 7384 catggcctta gcgcattttc actccatagt tactctccag gtgagatcaa tagggtggct |
|----|--|
|    | 7444 teatgeetea ggaaacttgg ggtacegeee ttgegagtet ggagacateg ggecagaagt |
|    | 7504 gtccgcgcta ggctactgtc ccaggggggg agggctgcca cttgtggcaa gtacctcttc |
|    | 7564 aactgggcag taaggaccaa geteaaacte acteeaatee eggetgegte eeagttggat |
|    | 7624 ttatccagct ggttcgttgc tggttacagc gggggagaca tatatcacag cctgtctcgt |
| 10 | 7684 gecegaceee getggtteat gtggtgeeta eteetaettt etgtaggggt aggeatetat |
|    | 7744 ctacteccea acegatgaac ggggagetaa acactecagg ceaataggee ateetgtttt |
|    | 7804 thecettit tittittett tittittitt tittittitt tittittitt titteettitt |
|    | 7864 ttttteetet tttttteett ttettteett tggtggetee atettageee tagteaegge |
|    | 7924 tagetgtgaa aggteegtga geegettgae tgeagagagt getgataetg geetetetge |
| 15 | 7984 agatcaagta ct   |

## 4. HCV Replicon RNA from cell line HCVR9 SEQ ID NO: 4

1 gecagecee gattgggge gacactecae catagateae teceetgtga ggaactactg
61 tetteaegea gaaagegtet agecatggeg ttagtatgag tgtegtgeag eeteeaggae
121 eeeeeeteee gggagageea tagtggtetg eggaaceggt gagtacaeeg gaattgeeag
181 gacgaceggg teetttettg gateaaeeeg eteaatgeet ggagatttgg gegtgeeeee
241 gegagaetge tageegagta gtgttgggte gegaaaggee ttgtggtaet geetgatagg
301 gtgettgega gtgeeeeggg aggtetegta gaeegtgeae eatgageaeg aateetaaae
361 eteaaagaaa aaceaaaggg egegeeatga ttgaacaaga tggattgeae geaggttete
421 eggeegettg ggtggagagg etattegget atgaetggge acaacagaea ateggetget
481 etgatgeege egtgtteegg etgteagege aggggegeee ggttettttt gteaagaeeg
541 acetgteegg tgeeetgaat gaactgeagg aegaggeage geggetateg tggetggeea
601 egaegggegt teettgegea getgtgeteg aegttgteae tgaagegga agggaetgge
661 tgetattggg egaagtgeeg gggeaggate teetgteate teaeettget eetgeeggaa
721 aagtateeat eatggetgat geaatgegge ggetgeatae gettgateeg getaeetgee
781 eattegaeea ceaagegaaa eategeateg agegageaeg taeteggatg gaageeggte
841 ttgtegatea ggatgatetg gaegaagage ateagggget egegeeagee gaactgtteg

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901 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet 961 gettgeegaa tateatggtg gaaaatggee gettttetgg atteategae tgtggeegge 1021 tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1081 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc 1141 agegeatege ettetatege ettettgaeg agttettetg agtttaaaca gaecacaaeg 1201 gtttccctct agegggatca attccgccc tetecetece eccecetaa egttaetgge 1261 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg 1321 ccgtcttttg gcaatgtgag ggcccggaaa cctggccctg tcttcttgac gagcattcct 1381 aggggtettt eccetetege caaaggaatg caaggtetgt tgaatgtegt gaaggaagea 1441 gtteetetgg aagettettg aagacaaaca aegtetgtag egaceetttg eaggeagegg 1501 aacccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata agatacacct 1561 gcaaaggcgg cacaacccca gtgccacgtt gtgagttgga tagttgtgga aagagtcaaa 1621 tggctctcct caagcgtatt caacaagggg ctgaaggatg cccagaaggt accccattgt 1681 atgggatetg atetggggee teggtgeaea tgetttaeat gtgtttagte gaggttaaaa 1741 aacgtctagg cccccgaac cacggggacg tggttttcct ttgaaaaaca cgataatacc 1801 atggcgccta ttacggccta ctcccaacag acgcgaggcc tacttggctg catcatcact 1861 agecteacag geegggacag gaaccaggte gagggggagg teca $\underline{G}$ gtggt etceacegea 1921 acacaatett teetggegae etgegteaat ggegtgtgtt ggaetgteta teatggtgee 1981 ggctcaaaga ccettgccgg cccaaagggc ccaatcaccc aaatgtacac caatgtggac 2041 caggaceteg teggetggea agegeeece ggggegegtt cettgacace atgeacetge 2101 ggcagctcgg acctttactt ggtcacgagg catgccgatg tcattccggt gcgccggcgg 2161 ggcgacagca gggggagcct actetecece aggecegtet cetaettgaa gggetetteg 2221 ggcggtccac tgctctgccc ctcggggcac gctgtgggca tctttcgggc tgccgtgtgc 2281 accegagggg ttgcgaaggc ggtggacttt gtaccegtcg agtctatgga aaccactatg 2341 eggteeegg tetteaegga caactegtee eeteeggeeg taeegeagae atteeaggtg 2401 geceatetae aegeeectae tggtagegge aagageaeta aggtgeegge tgegtatgea 2461 gcccaagggt ataaggtgct tgtcctgaac ccgtccgtcg ccgccaccct aggtttcggg 2521 gcgtatatgt ctaaggcaca tggtatcgac cctaacatca gaaccggggt aaggaccatc 2581 accaegggtg eccecateae gtaeteeace tatggeaagt ttettgeega eggtggttge 2641 tetggggggg cetatgacat cataatatgt gatgagtgee aeteaactga etegaceaet

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2701 atcctgggca tcggcacagt cctggaccaa gcggagacgg ctggagcgcg actcgtcgtg 2761 ctcgccaccg ctacgcctcc gggatcggtc accgtgccac atccaaacat cgaggaggtg 2821 getetgteea geaetggaga aateeeettt tatggeaaag ceateeeeat egagaceate 2881 aagggggga ggcacctcat tttctgccat tccaagaaga aatgtgatga gctcgccgcg 2941 aagetgteeg geeteggaet eaatgetgta geatattace ggggeettga tgtateegte 3001 ataccaacta geggagaegt cattgtegta geaaeggaeg etetaatgae gggetttace 3061 ggcgatttcg actcagtgat cgactgcaat acatgtgtca cccagacagt cgacttcagc 3121 etggaceega cetteaceat tgagacgaeg acegtgeeae aagacgeggt gteaegeteg 3181 cageggegag geaggactgg taggggeagg atgggeattt acaggtttgt gaeteeagga 3241 gaacggccct cgggcatgtt cgattcctcg gttctgtgcg agtgctatga cgcgggctgt 3301 gettggtaeg ageteaegee egeegagaee teagttaggt tgegggetta eetaaaeaea 3361 ccagggttgc ccgtctgcca ggaccatctg gagttctggg agagcgtctt tacaggcctc 3421 acceacatag acgeceattt ettgteecag actaageagg eaggagaeaa etteecetae 3481 etggtageat accaggetae ggtgtgegee agggeteagg etceacetee ategtgggae 3541 caaatgtgga agtgteteat aeggetaaag eetaegetge aegggeeaae geeeetgetg 3601 tataggetgg gageegttea aaaegaggtt actaecaeae acceeataae caaataeate 3661 atggcatgca tgtcggctga cctggaggtc gtcacgagca cctgggtgct ggtaggcgga 3721 gteetageag etetggeege gtattgeetg acaacaggea gegtggteat tgtgggeagg 3781 atcatettgt ccggaaGgcc ggccatcatt ccgacaggg aagtccttta ccgggagttc3841 gatgagatgg aagagtgege eteacacete cettacateg aacagggaat geagetegee 3901 gaacaattca aacagaaggc aatcgggttg ctgcaaacag ccaccaagca agcggaggct 3961 getgeteeeg tggtggaate caagtggegg accetegaag cettetggge gaagcatatg 4021 tggaatttca tcagegggat acaatattta gcaggettgt ccactetgee tggcaaccee 4081 gegatageat caetgatgge atteacagee tetateacea gecegeteae caeceaacat 4141 accetectgt ttaacatect ggggggatgg gtggccgccc aacttgctcc teccageget 4201 gettetgett tegtaggege eggeateget ggageggetg ttggeageat aggeettggg 4261 aaggtgettg tggatatttt ggeaggttat ggageagggg tggeaggege getegtggee 4321 tttaaggtca tgageggega gatgecetee acegaggace tggCtaacet acteeetget 4381 atcetetece etggegeeet agtegteggg gtegtgtgeg eagegataet gegteggeae 4441 gtgggcccag gggaggggc tgtgcagtgg atgaaccggc tgatagcgtt cgcttcgcgg

5 4501 ggtaaccacg tetececeae geactatgtg cetgagageg aegetgeage aegtgteaet 4561 cagatectet etagtettae cateacteag etgetgaaga ggetteacea gtggateaac 4621 gaggactgct ccacgccatg ctccggctcg tggctaagag atgtttggga ttggatatgc 4681 acggtgttga etgatttcaa gacetggete cagtecaage teetgeegeg attgeeggga 4741 gtccccttct tctcatgtca acgtgggtac aagggagtct ggcggggcga cggcatcatg 10 4801 caaaccacct geceatgtgg ageacagate accggacatg tgaaaaaAgg ttecatgagg 4861 atcgtggggc ctaggacctg tagtaacacg tggcatggaa cattccccat taacgcgtac 4921 accaegggee cetgeacgee eteceeggeg ceaaattatt etagggeget gtggegggtg 4981 getgetgagg agtacgtgga ggttacgegg gtgggggatt tecaetacgt gaegggeatg 5041 accactgaca acgtaaagtg cccgtgtcag gttccggccc ccgaattctt cacagaagtg 15 5101 gatggggtgc ggttgcacag gtacgctcca gcgtgcaaac ccctcctacg ggaggaggtc 5161 acattectgg tegggeteaa teaatacetg gttgggteae ageteecatg egageeegaa 5221 ceggaegtag cagtgeteae ttecatgete acegaeceet cecacattae ggeggagaeg 5281 getaagegta ggetggeeag gggateteec eceteettgg eeageteate agetageeag 5341 etgtetgege etteettgaa ggeaacatge actaecegte atgaeteece ggaegetgae 20 5401 ctcatcgagg ccaacctcct gtggcggcag gagatgggcg ggaacatcac ccgcgtggag 5461 tcagaaaata aggtagtaat tttggactct ttcgagccgc tccaagcgga ggaggatgag 5521 agggaagtat ccgttccggc ggagatcctg cggaggtcca ggaaattccc tcgagcgatg 5581 cccatatggg cacgccgga ttacaaccct ccactgttag agtcctggaa ggacccggac 5641 tacgtecete cagtggtaca egggtgteca ttgeegeetg ecaaggeece teegatacea 25 5701 cctccacgga ggaagaggac ggttgtcctg tcagaatcta ccgtgtcttc tgccttggcg 5761 gagetegeca caaagaeett eggeagetee gaategtegg eegtegacag eggeaeggea 5821 acggcetete etgaceagee etcegacgae ggegaegegg gateegaegt tgagtegtae 5881 tectecatge ecceettga gggggageeg ggggateeeg ateteagega egggtettgg 5941 tetacegtaa gegaggagge tagtgaggae gtegtetget getegatgte etacacatgg 30 6001 acaggegeee tgateaegee atgegetgeg gaggaaaeea agetgeeeat caatgeaetg 6061 ageaactett tgeteegtea eeacaacttg gtetatgeta eaacateteg eagegeaage 6121 ctgcggcaga agaaggtcac ctttgacaga ctgcaggtcc tggacgacca ctaccgggac 6181 gtgctcaagg agatgaaggc gaaggcgtcc acagttaagg ctaaacttct atccgtggag 6241 gaageetgta agetgaegee eccacatteg geeagateta aatttggeta tggggeaaag

5 6301 gacgtccgga acctatccag caaggccgtt aaccacatcc gctccgtgtg gaaggacttg 6361 ctggaagaca ctgagacacc aattgacacc accatcatgg caaaaaatga ggttttctgc 6421 gtccaaccag agaagggggg ccgcaagcca gctcgcctta tcgtattccc agatttgggg 6481 gttegtgtgt gegagaaaat ggeeetttae gatgtggtet eeaceeteec teaggeegtg 6541 atgggetett cataeggatt ecaataetet eetggaeage gggtegagtt eetggtgaat 10 6601 gcctggaaag cgaagaaatg ccctatgggc ttcgcatatg acacccgctg ttttgactca 6661 acggtcactg agaatgacat ccgtgttgag gagtcaatct accaatgttg tgacttggcc 6721 cccgaagcca gacaggccat aaggtegete acagagegge tttacategg gggeeecetg 6781 actaatteta aagggeagaa etgeggetat egeeggtgee gegegagegg tgtaetgaeg 6841 accagetgeg gtaataccet cacatgttae ttgaaggeeg etgeggeetg tegagetgeg 15 6901 aageteeagg actgeacgat getegtatge ggagaegaee ttgtegttat etgtgaaage 6961 geggggaece aagaggaega ggegageeta egggeettea eggaggetat gaetagatae 7021 tetgeeceec etggggacce geecaaacca gaataegaet tggagttgat aacateatge 7081 tectecaatg tgteagtege geaegatgea tetggeaaaa gggtgtaeta teteaceegt 7141 gaececacca ecceettge gegggetgeg tgggagaeag etagaeacae tecagteaat 7201 teetggetag geaacateat eatgtatgeg eccaecttgt gggeaaggat gateetgatg 7261 actcatttct tetecatect tetageteag gaacaacttg aaaaageeet agattgteag 7321 atctacgggg cctgttactc cattgagcca cttgacctac ctcagatcat tcaacgactc 7381 catggcctta gcgcattttc actccatagt tactctccag gtgagatcaa tagggtggct 7441 teatgectea ggaaacttgg ggtacegeec ttgegagtet ggagacateg ggecagaagt 7501 gtccgcgcta ggctactgtc ccaggggggg agggctgcca cttgtggcaa gtacctcttc 7561 aactgggcag taaggaccaa geteaaacte actecaatee eggetgegte eeagttggat 7621 ttatccaget ggttcgttgc tggttacage gggggagaca tatatcacag cetgtctcgt 7681 georgaecce getggtteat gtggtgeeta etectaettt etgtaggggt aggeatetat 7741 ctacteccea acegatgaae ggggagetaa acaetecagg ceaataggee atectgtttt 30 7861 tttttcctct ttttttcctt ttctttcctt tggtggctcc atcttagccc tagtcacggc 7921 tagetgtgaa aggteegtga geegettgae tgeagagagt getgataetg geetetetge 7981 agatcaagta ct

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### 5. HCV Replicon from cell line HCVR22

### SEQ ID NO: 5

1 gecagecece gattggggge gacacteeae catagateae teecetgtga ggaactaetg 61 tetteaegea gaaagegtet ageeatggeg ttagtatgag tgtegtgeag ceteeaggae 121 ccccctccc gggagagcca tagtggtctg cggaaccggt gagtacaccg gaattgccag 181 gacgaceggg teetttettg gateaaceeg eteaatgeet ggagatttgg gegtgeeece 241 gcgagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtggtact gcctgatagg 301 gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcacg aatcctaaac 361 ctcaaagaaa aaccaaaggg cgcgccatga ttgaacaaga tggattgcac gcaggttctc 421 eggeegettg ggtggagagg etattegget atgaetggge acaacagaca ateggetget 481 ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc ggttcttttt gtcaagaccg 541 acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcggctatcg tggctggcca 601 cgacgggcgt tccttgcgca gctgtgctcg acgttgtcac tgaagcggga agggactggc 661 tgctattggg cgaagtgccg gggcaggatc tcctgtcatc tcaccttgct cctgccgaga 721 aagtateeat eatggetgat geaatgegge ggetgeatae gettgateeg getaeetgee 781 cattegacea ceaagegaaa categeateg agegageaeg tacteggatg gaageeggte 841 ttgtcgatca ggatgatctg gacgaagagc atcagggget cgcgccagcc gaactgttcg 901 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet 961 gettgeegaa tateatggtg gaaaatggee gettttetgg atteategae tgtggeegge 1021 tgggtgtggc ggaccgctat caggacatag cgttggctac ccgtgatatt gctgaagagc 1081 ttggcggcga atgggctgac cgcttcctcg tgctttacgg tatcgccgct cccgattcgc 1141 agegeatege ettetatege ettettgaeg agttettetg agtttaaaca gaccacaacg 1201 gtttccctct agegggatca attccgcccc tctccctccc cccccctaa cgttactggc 1261 cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc caccatattg 1321 cogtettttg geaatgtgag ggeeeggaaa eetggeeetg tettettgae gageatteet 1381 aggggtcttt cccctctcgc caaaggaatg caaggtctgt tgaatgtcgt gaaggaagca 1441 gttcctctgg aagcttcttg aagacaaaca acgtctgtag cgaccctttg caggcagcgg 1501 aacccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata agatacacct 1561 gcaaaggegg cacaacccca gtgccacgtt gtgagttgga tagttgtgga aagagtcaaa

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1621 tggeteteet caagegtatt caacaagggg etgaaggatg eccagaaggt accecattgt 1681 atgggatetg atetggggee teggtgeaea tgetttaeat gtgtttagte gaggttaaaa 1741 aacgtetagg cccccgaa $\underline{\mathbf{T}}$  cacggggacg tggttttcct ttgaaaaaca cgataatacc 1801 atggcgccta ttacggccta ctcccaacag acgcgaggcc tacttggctg catcatcact 1861 agecteacag geegggacag gaaccaggte gagggggagg tecaagtggt etecacegea 1921 acacaatett teetggegae etgegteaat ggegtgtgtt ggaetgteta teatggtgee 1981 ggetcaaaga eeettgeegg eecaaaggge eeaateacee aaatgtacae eaatgtggae 2041 caggaceteg teggetggea agegeeece ggggegegtt cettgacace atgeacetge 2101 ggcagctcgg acctttactt ggtcacgagg catgccgatg tcattccggt gcgccggcgg 2161 ggcgacagca gggggagcet actetecece aggecegtet cetaettgaa gggetetteg 2221 ggcggtccac tgctctgccc ctcggggcac gctgtgggca tctttcgggc tgccgtgtgc 2281 accegagggg ttgcgaaggc ggtggacttt gtaccegtcg agtctatggG aaccactatg 2341 eggteecegg tetteaegga caactegtee ceteeggeeg tacegeagae atteeaggtg 2401 geccatetae aegeceetae tggtagegge aagageaeta aggtgeegge tgegtatgea 2461 gcccaagggt ataaggtget tgteetgaae eegteegteg eegeeaeeet aggttteggg 2521 gegtatatgt etaaggeaca tggtategae eetaacatea gaaceggggt aaggaecate 2581 accaegggtg ecceeateae gtaeteeace tatggeaagt ttettgeega eggtggttge 2641 tetgggggeg cetatgaeat cataatatgt gatgagtgee acteaactga etegaceact 2701 atcctgggca tcggcacagt cctggaccaa gcggagacgg ctggagcgcg actcgtcgtg 2761 ctcgccaceg ctacgcctcc gggatcggtc accgtgccac atccaaacat cgaggaggtg 2821 getetgteea geaetggaga aateceettt tatggeaaag ceateceeat egagaceate 2881 aaggggggga ggeaceteat tttetgeeat teeaagaaga aatgtgatga getegeegeg 2941 aagetgteeg geeteggaet eaatgetgta geatattace ggggeettga tgtateegte 3001 ataccaacta geggagaegt cattgtegta geaaeggaeg etetaatgae gggetttaee 3061 ggcgatttcg actcagtgat cgactgcaat acatgtgtca cccagacagt cgacttcagc 3121 ctggacccga ccttcaccat tgagacgacg accgtgccac aagacgcggt gtcacgctcg 3181 cagcggcgag gcaggactgg taggggcagg atgggcattt acaggtttgt gactccagga 3241 gaacggccct cgggcatgtt cgattcctcg gttctgtgcg agtgctatga cgcgggctgt 3301 gettggtacg ageteaegee egeegagace teagttaggt tgegggetta eetaaacaca 3361 ccagggttgc ccgtctgcca ggaccatctg gagttctggg agagcgtctt tacaggcctc

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| 5  | 7021 tetgecece etggggacce geceaaacea gaataegaet tggagttgat aacateatge  |
|----|--|
|    | 7081 teeteeaatg tgteagtege geaegatgea tetggeaaaa gggtgtaeta teteaceegt |
|    | 7141 gaccccacca eccecttge gegggetgeg tgggagacag etagacacac tecagtcaat  |
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|    | 7261 acteatttet tetecateet tetageteag gaacaacttg aaaaageeet agattgteag |
| 10 | 7321 atctaegggg cetgttacte cattgageca ettgacetae etcagateat teaacgaete |
|    | 7381 catggcctta gegeatttte acteeatagt tacteteeag gtgagateaa tagggtgget |
|    | 7441 teatgeetea ggaaacttgg ggtacegeee ttgegagtet ggagacateg ggeeagaagt |
|    | 7501 gtccgcgcta ggctactgtc ccaggggggg agggctgcca cttgtggcaa gtacctettc |
|    | 7561 aactgggcag taaggaccaa geteaaaete acteeaatee eggetgegte eeagttggat |
| 15 | 7621 ttatccagct ggttcgttgc tggttacagc gggggagaca tatatcacag cctgtctcgt |
|    | 7681 gecegacee getggtteat gtggtgeeta etectaettt etgtaggggt aggeatetat  |
|    | 7741 ctacteccea acegatgaae ggggagetaa acactecagg ceaataggee ateetgtttt |
|    | 7801 tttecetttt tttttttttt ttttttttt tttttttt                          |
|    | 7861 tttttcetet tttttteett ttettteett tggtggetee atettageee tagteaegge |
| 20 | 7921 tagetgtgaa aggteegtga geegettgae tgeagagagt getgataetg geetetetge |
|    | 7981 agatcaagta ct   |
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### 6. HCV Replicon from cell line HCVR24SEQ ID NO: 6

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481 etgatgeege egtgtteegg etgteagege aggggegeee ggttettttt gteaagaeeg
541 aeetgteegg tgeeetgaat gaactgeagg aegaggeage geggetateg tggetggeea

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| 661 tgctattggg cgaagtgccg gggcaggate teetgteate teacettget cetgeegaga   |
| 721 aagtateeat eatggetgat geaatgegge ggetgeatae gettgateeg getaeetgee   |
| 781 cattegacca ccaagegaaa categeateg agegageaeg-tacteggatg gaageeggte   |
| 841 ttgtcgatca ggatgatctg gacgaagagc atcagggget cgcgccagcc gaactgttcg   |
| 901 ccaggeteaa ggegegeatg cccgaeggeg aggatetegt egtgaeceat ggegatgeet   |
| 961 gettgeegaa tateatggtg gaaaatggee gettttetgg atteategae tgtggeegge   |
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| 1141 agegeatege ettetatege ettettgaeg agttettetg agtttaaaca gaecacaaeg  |
| 1201 gttteeetet agegggatea atteegeeee teteeeteee eeeeeetaa egttaetgge   |
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| 1381 aggggtettt eccetetege caaaggaatg caaggtetgt tgaatgtegt gaaggaagca  |
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| 1501 aacccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata agatacacct   |
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| 1981 ggetcaaaga ccettgeegg cceaaaggge ccaatcacee aaatgtacae caatgtggae  |
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| 2221 ggeggteeae tgetetgeee eteggggeae getgtgggea tettteggge tgeegtgtge  |
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| 2341 eggteeeegg tetteaegga caactegtee ceteeggeeg tacegeagae atteeaggtg  |

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2401 geccatetae aegecectae tggtagegge aagageaeta aggtgeegge tgegtatgea 2461 gcccaagggt ataaggtget tgtcctgaac ccgtccgtcg ccgccaccct aggtttcggg 2521 gcgtatatgt ctaaggcaca tggtatcgac cctaacatca gaaccggggt aaggaccatc 2581 accaegggtg eccecateae gtaeteeaee tatggeaagt ttettgeega eggtggttge 2641 totgggggcg cotatgacat cataatatgt gatgagtgcc actcaactga ctcgaccact 2701 atcctgggca tcggcacagt cctggaccaa gcggagacgg ctggagcgcg actcgtcgtg 2761 etegecaceg etaegeetee gggateggte acegtgecae atecaaacat egaggaggtg 2821 getetgteea geaetggaga aateeeettt tatggeaaag eeateeeeat egagaeeate 2881 aagggggga ggcacctcat tttctgccat tccaagaaga aatgtgatga gctcgccgcg 2941 aagetgteeg geeteggaet eaatgetgta geatattace ggggeettga tgtateegte 3001 ataccaacta geggagaegt cattgtegta geaaeggaeg etetaatgae gggetttaee 3061 ggcgatttcg actcagtgat cgactgcaat acatgtgtca cccagacagt cgacttcagc 3121 ctggacccga ccttcaccat tgagacgacg accgtgccac aagacgcggt gtcacgctcg 3181 cagcggcgag gcaggactgg taggggcagg atgggcattt acaggtttgt gactccagga 3241 gaacggccct cgggcatgtt cgattcctcg gttctgtgcg agtgctatga cgcgggctgt 3301 gettggtacg ageteaegee egeegagace teagttaggt tgegggetta eetaaacaca 3361 ccagggttgc ccgtctgcca ggaccatctg gagttctggg agagcgtctt tacaggcctc 3421 acceacatag acgeceattt ettgteecag actaageagg eaggagaeaa etteecetae 3481 ctggtagcat accaggctac ggtgtgcgcc agggctcagg ctccacctcc atcgtgggac 3541 caaatgtgga agtgtctcat acggctaaag cctacgctgc acgggccaac gccctgctg 3601 tataggetgg gageegttea aaacgaggtt actaceaeae acceeataae eaaataeate 3661 atggcatgca tgtcggctga cctggaggtc gtcacgagca cctgggtgct ggtaggcgga 3721 gtcctagcag ctctggccgc gtattgcctg acaacaggca gcgtggtcat tgtgggcagg 3781 atcatcttgt ccggaaagcc ggccatcatt cccgacaggg aagtccttta ccgggagttc 3841 gatgagatgg aagagtgege etcaeacete cettacateg aacagggaat geagetegee 3901 gaacaattca aacagaaggc aatcgggttg ctgcaaacag ccaccaagca agcggaggct 3961 gctgctcccg tggtggaatc caagtggcgg accetcgaag cettctgggc gaagcatatg 4021 tggaatttca tcagcgggat acaatattta gcaggcttgt ccactctgcc tggcaacccc 4081 gegatageat eactgatgge atteacagee tetateacea gecegeteae eacecaacat 4141 accetectgt ttaacatect ggggggatgg gtggccgccc aacttgctcc teccageget

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15 SEQ ID NO: 9

CCTTGTGGGCAAGGATGATCC

SEQ ID NO: 10

GACAGGCTGTGATATATGTCTCC

20

SEQ ID NO: 11

**GTTCTTTTTGTCAAGACCGACC** 

SEQ ID NO: 12

25 CCACCATGATATTCGGCAAGC

SEQ ID NO: 13

CTCGTATGTTGTGGAA

30 SEQ ID NO: 14

**GTCGCTCTCGAGGCACATA**